

Listing of Claims

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (Previously Presented) A method for cleaning a membrane filtration module, the module comprising at least one membrane located in a feed-containing vessel, the membrane comprising a permeable wall, the method comprising:

conducting a filtration operation wherein a feed is applied to a first side of the permeable wall and a filtrate is withdrawn from a second side of the permeable wall;
suspending the filtration operation;
performing a cleaning process on the permeable wall to dislodge a contaminant therefrom into a liquid surrounding the membrane;
forming a gas-containing region on the first side of the permeable wall;
sealing the feed-containing vessel;
pressurizing a gas within the gas-containing region; and
opening the feed-containing vessel to atmosphere, whereby the gas-containing region expands and produces a sweep of the feed-containing vessel to remove the liquid containing the dislodged contaminant.

2. (Previously Presented) The method according to claim 1, wherein the step of performing a cleaning process comprises performing a fluid backwash of the permeable wall.

3. (Original) The method according to claim 2, wherein the fluid backwash comprises a liquid backwash.

4. (Original) The method according to claim 2, wherein the fluid backwash comprises a gas backwash.

5. (Previously Presented) The method according to claim 1, wherein a velocity of the sweep is greater than about 0.03 m/sec.
6. (Previously Presented) The method according to claim 1, wherein a velocity of the sweep is from about 0.3 m/sec to about 2.0 m/sec.
7. (Previously Presented) The method according to claim 1, wherein the step of performing a cleaning process comprises gas scrubbing a surface of the permeable wall.
8. (Previously Presented) The method according to claim 1, wherein the sweep of the feed-containing vessel is produced periodically in different directions within the vessel.
9. (Original) The method according to claim 1, wherein the membrane comprises a hollow fiber membrane, and wherein the filtrate is withdrawn from at least one end of the hollow fiber membrane during the filtration operation.
10. (Previously Presented) The method according to claim 1, wherein the gas-containing region is formed within the feed-containing vessel.
11. (Previously Presented) The method according to claim 1, wherein the gas-containing region is formed within a further vessel coupled to the feed-containing vessel; and wherein the step of sealing the feed-containing vessel comprises sealing the feed-containing vessel and the further vessel as a whole.
12. (Original) The method according to claim 10, wherein the gas-containing region is formed by partially draining down a feed liquid within the feed-containing vessel.
13. (Previously Presented) The method according to claim 10, wherein opening the feed-containing vessel comprises applying a fluid backwash to the membrane.

14-24. (Canceled)

25. (Previously Presented) The method according to claim 1, wherein the feed-containing vessel is opened to atmosphere when a pressure on the first side of the membrane approaches a pressure on the second side of the membrane to generate an instantaneous negative transmembrane pressure.